

Application No.: 10/023109

Docket No.: 58683-00002USPX

REMARKS

Reconsideration of the application, as presently amended, is respectfully requested. Claims 1, 4-7, 10, 16, 19-24, and 42-43 have been amended. No claims have been added or canceled.

Claim 22 stands objected to because "(e)" on line 11 appears to be --(c)--. In response, Applicant has amended claim 22 to replace "(e)" with -- (c) --.

Claim 1 has been amended to recite identifying a transfer function of the signal path including a microphone for each of the signal paths, and determining, based on the transfer function, a filtering function for each signal path. Claims 16, 42 and 43 have been amended to add similar changes to those of claim 1. Claims 6-7 and 21-22 have amended to reflect the amendment to claims 1 and 16. Applicant respectfully submits that the amendment of claims 1, 6-7, 16, 21-22, and 42-43 have added no new matter and are fully supported by the application as originally filed at at least page 10, lines 13-22.

Claims 4 and 19 have been amended to replace "filter means" with "filter." Claim 23 has been amended to replace "means for generating" with "a first noise generator for generating." Claim 24 has been amended to replace "means for generating" with "a second noise generator for generating." Claims 5 and 20 have been amended to replace "transfer function for" with "transfer function of." Claim 10 has been amended to replace "may be" with "is." Applicant respectfully submits that no new matter has been added by the amendment of claims 4-5, 10, 19-20 and 23-24.

Claims 1-5, 16-20, and 42-43 stand rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 5,029,217 to Chabries ("Chabries '217"). The present application contains independent claims 1, 16, 42, and 43. The Office Action asserts that Chabries '217 teaches means for identifying a transfer function for each of the signal paths and means for determining a filtering function for each signal path and equalization. Chabries '217 discloses a device for compensating for a hearing loss. As shown in Figures 3-5 of Chabries '217, Chabries '217 discloses one input and fails to teach or suggest a listening device or hearing aid with multiple inputs having multiple microphones.

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In Chabries '217, a transform 502 performs an N-point FFT stage. A transform 504 performs an N-point inverse TFT stage. Applicant respectfully submits that the transform 502, 504 is not a transfer function of a signal path including a microphone. Each of filtering stages 501 and 505 disclosed by Chabries '217 is not determined based on the transfer function of a signal path including a microphone. Equalizing in Chabries '217 refers to applying gains at discrete frequencies to compensate for hearing losses at discrete frequencies. Chabries '217 does not teach or suggest equalizing signal paths having multiple microphones.

In light of the above, Applicant respectfully submits that each of claims 1-5, 16-20, and 42-43 distinguishes over Chabries '217 and is in condition for allowance. Withdrawal of the rejection of claims 1-5, 16-20, and 42-43 is respectfully requested.

Claims 6-11, 15, 21-24, 26, 28-29, 31 and 33-41 stand rejected under 35 U.S.C. 103(a) as unpatentable over Chabries in view of U.S. Patent No. 4,658,426 to Chabries ("Chabries '426"). Figure 1 of Chabries '426 discloses an adaptive canceller 50 that includes an adaptive filter 52 and an adder 58 to remove a noise component. Figure 9 of Chabries '426 discloses a device having a microphone 2, a noise suppression device 40, a feedback suppression device 42, and an analog-to-digital converter 8. Chabries '426 uses noise to filter background noise from speech in real time so as to improve speech intelligibility. In contrast to the rejected claims, Chabries '426 fails to teach or suggest processing noise to identify the transfer function of a signal path including a microphone.

Claims 6-11, 15, 33-35 and 39-41 directly or indirectly depend from claim 1. Claims 21-24, 26, 28-29, 31, and 36-38 directly or indirectly depend from claim 16. Chabries '217 fails to teach or suggest at least the distinguishing features of claims 1 and 16 discussed above. Chabries '426 fails to cure the deficiencies of Chabries '217. Thus, claims 6-11, 15, 21-24, 26, 28-29, 31 and 33-41 distinguish over the cited combination of Chabries '217 and Chabries '426. Withdrawal of the rejection of claims 16-11, 15, 21-24, 26, 28-29, 31 and 33-41 is respectfully requested.

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Claims 12-13, 25, and 27 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Chabries '217 in view of Chabries '426 and further in view of A dual-channel MLS based test system for hearing-aid characterization by Schneider ("Schneider").

Claims 12-13 depend from claims 8-9, respectively. Claims 25 and 27 depend from claims 23-24, respectively. Schneider discloses a maximum-length-sequence based sequence test system. However, as described above, claims 8-9 and 23-24 distinguish over the combination of Chabries '217 and Chabries '426. Schneider fails to cure the deficiencies of the cited combination of Chabries '217 and Chabries '426. Applicant respectfully requests that the rejection of claims 12-13, 25, and 27 be withdrawn.

Claims 14, 30, and 32 stand rejected under 35 U.S.C. 103(a) as unpatentable over Chabries '217 in view of Chabries '426 and further in view of U.S. Patent No. 6,480,610 to Fang ("Fang").

Fang discloses a sub-band acoustic feedback cancellation system 500. As described on col. 3, lines 56-59 and col. 7, lines 60-63 of Fang, Fang injects noise for training to identify a feedback path. The feedback path may occur from the output of a hearing aid loudspeaker to the input of a hearing aid microphone. Fang identifies the feedback paths, and fails to teach or suggest identifying a transfer function of the signal path including a microphone for each of the signal paths.

Claim 14 depends from claim 9. Claims 30 and 32 depend from claim 24. As described above, claims 9 and 24 distinguish over Chabries '217 and Chabries '426. Schneider fails to cure the deficiencies of the cited combination of Chabries '217 and Chabries '426. Applicant respectfully submits that claims 14, 30 and 32 distinguish over the cited references and are condition for allowance. Withdrawal of the rejection of claims 14, 30, and 32 is respectfully requested.

In view of the above, each of the presently-pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

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Dated: May 19, 2004

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